



Printers
Speakers
Desktops
Cell phones
Graphics cards
Laptops
Netbooks
Digital cameras

Agent 001 on a **FastTrack**

YOUR HANDY GUIDE TO EVERYDAY TECHNOLOGY

Storage devices
HDTVs
Wi-Fi routers
Processors
Motherboards
DVD/Blu-ray players
LCD monitors
PMPs
Camcorders

digit

YOUR TECHNOLOGY NAVIGATOR

thinkdigit.com

Fast Track

Agent 001



CREDITS

The People Behind This Book

EDITORIAL

Editor	Robert Sovereign-Smith
Head-Copy Desk	Nash David
Writer	Agent 001

DESIGN AND LAYOUT

Lead Designer	Vijay Padaya
Illustrators	Shrikrishna Patkar, Chaitanya Surpur
Cover Design	Jayan Narayanan

© 9.9 Mediaworx Pvt. Ltd.

Published by 9.9 Mediaworx

No part of this book may be reproduced, stored in a retrieval system or transmitted in any form or by any means without the prior written permission of the publisher.

December 2009

Free with Digit. Not to be sold separately. If you have paid separately for this book, please email the editor at editor@thinkdigit.com along with details of location of purchase, for appropriate action.

Contents

Chapter 1	
PRINTERS	5
Chapter 2	
SPEAKERS	8
Chapter 3	
DESKTOPS	11
Chapter 4	
CELL PHONES	15
Chapter 5	
GRAPHICS CARDS	19
Chapter 6	
LAPTOPS	22
Chapter 7	
NETBOOKS	26
Chapter 8	
CAMERAS	29
Chapter 9	
STORAGE	33
Chapter 10	
HDTVs	37
Chapter 11	
WiFi ROUTERS	41
Chapter 11	
PROCESSORS	45
Chapter 12	
MOTHERBOARDS	48
Chapter 13	
PLAYERS	52
Chapter 14	
LCD MONITORS	55
Chapter 15	
PMPs	59
Chapter 16	
CAMCORDERS	62


Introduction

A man who does not think for himself does not think at all

–Oscar Wilde

And this, my readers is the sole reason behind the effort put in by me to create this buying guide for you. The month of December marks a special time for us every year. For this is the time spent summarizing the year that has gone by. And particular attention is paid to the products that come to and go from our test centre. I realise it's not possible to test every possible product out there. Neither is it possible for manufacturers, distributors and vendors to send each and every product from a particular category when a test is conducted. We're humble enough to realise that a lot of good products end up not reaching the doors of our test centre and this is where you, the readers, come in.

Aristotle once said "It is the mark of an educated mind to be able to entertain a thought without accepting it", which just about sums up the major reason for this collection of buying advice – education and empowerment.

So, along with the Zero 1 Awards, that you will no doubt come across in the magazine, I present this booklet, that contains buying advice across various product categories. Full of factoids, buying information, and some practical experiences of what to watch out for, the purpose of this booklet is to serve as your ready-reckoner – something that will supplement the knowledge gained from Zero 1. Something that will allow you to make purchase decisions yourselves and end up buying something that Digit hasn't had the pleasure of testing, but that may be every bit as good as something we've tested. Hopefully, this advice will also help you selecting products in the future and also recommending products to family and friends. I also hope that you will not hesitate to write in to me, sharing your own experiences while shopping, the problems you have faced. 

Printing Solutions



Printers or any other printing devices are something that are only thought of after using PCs for a while. Even I realised that there were some really nice posters I could print in the convenience of my home without having to go to the local printing place. Those printers were slow, quality was decent, but half of the time, the operator would end up printing with borders or some weird settings. I wanted complete control of the printing process and for that, I would need to buy a photo printer. There were some other products that I needed to enquire for some of my friends. Some standard desktop printers and MFDs were in that list. With the plan in mind, I went on my way.

The most important thing I had to purchase was the printer that was to be used for desktop use – no photos, just everyday prints – some documents, a few images here and there, that kind of thing. The budget was also pretty low. I had



Canon iP1980

to find something under Rs. 4,000. There were very few options available. Printers are difficult products to sell and the requirements of people are simple – it should print and it should be cheap. That's exactly what has happened. Printers have been made so cheap that they are even cheaper than the cartridges at times. Some people actually think of purchasing a new printer every time one starts breaking down.

There isn't a lot of choice in printers. Shop keepers tend to stock a couple of models of each brand. Asking for specific models often proves fruitless. Such was the case when I asked for a few models from Canon. Still, I only found the Canon Pixma iP1980 easily. The price is around Rs. 2,000. There was also a cheap HP printer – the Deskjet D2668 is priced at Rs. 2,300. In term of specifications and numbers, they were pretty identical. I made a few enquiries to check for any Epson printers. I could only find a model called C58. The price was Rs. 1,750.

I had no luck finding laser printers under Rs. 5,000 either. I thought prices would've dropped. The cheapest laser monochrome printer around, the Canon Laser Shot LBP3108B, is available for Rs. 5,500. Samsung, too, entered this price range. Their ML-2245I model was able to get the price down to around Rs. 6,600. HP's Laserjet P1007 was also available at around the same price. This was a product we had tested in the past and we know it to be a reliable mono laser printer.

I've seen people going in for more compact photo printers that are used to print photos to paper directly from a digital camera. Canon's Selphy printers are perfect for that kind of use. The Canon Selphy CP760 is the cheapest option around at just Rs. 5,600. The CP770 model is some Rs. 9,200. For those who are

looking for larger format printers. For A4 printouts, the Canon PIXMA iP4760 is probably the best Canon has to offer. The price isn't too shabby either, at just Rs. 7,500. Epson's Stylus Photo series of printers are also



Canon MX328

designed to be high-quality photo printers for home use. Their TX700 model is one such product. We could only get the price down to around Rs. 12,000. It comes with memory card slots and even an integrated display.

MFDs are the next big category of products which have some peoples attention. They are like any other printer, except they can scan documents as well. The quality of these MFDs isn't great, but the features that these products come with and the pricing at which they are available make them very popular.

While I was out looking for printers, I found some of the cheapest MFDs starting from just Rs. 3,400. This was the Canon MP145. For this price, this also has the colour inkjet printing feature. For office use, Canon's costlier PIXMA MX328 is an option to consider. The Rs. 8,500 price tag should be very affordable for most offices. There's even a built-in fax.

Brother products were available as well. The vendors suggested against it with the fear of not getting cartridges of products once they got slightly outdated. Still, I felt there were some really good Brother products around in the MFD section. The prices made them very competitive. I find some Brother products offer the same features offered by some of the products from other makes at almost half the price. The famous MFC-5460CN was something I was looking for. It's priced at around Rs. 11,000 but since this is an old model, it might be slightly difficult to find. HP's Photosmart C3188 and some of the models from the Deskjet F series were also present. The price for the C3188 was Rs. 5,400 where as the Deskjet F2120 was Rs. 4,250.



Speakers



Every one of us has speakers connected to our PC. I can't stand the thought of not having any connected to my system. Some of my friends bought PCs that came with a 5-W speaker system. There's no sub-woofer and they aren't powerful at all. Once they came over and saw my wonderful Audioengine A5 models, they were blown away. They're great for all kinds of sound signature being pretty neutral at the same time. Having seen my set-up, everyone wanted a set-up just like mine. They are very expensive too. At close to Rs. 20,000 a pair, it's not something all of them were willing to afford. Making them understand that there are speakers that are costlier shocked them even more.

Some of them were looking for speakers for their HTPCs in their living rooms that were connected to LCD TVs. There was one who wanted speakers for music that they could use in their rooms. Some were still very keen on really powerful 5.1 set-ups for their gaming rigs.



So, with all our needs in mind, we went straight down to hardware haven – Lamington Road. It's possible to walk into any computer store there and ask for a particular model and you can get exactly what you need. A few shops favour certain brands though. We asked for a good 2.1 set of speakers first. We were shown some desktop Intex speakers – 2.0. We had to explain that we wanted something with a sub-woofer. Out came some iBall Tarang 2.1 speakers. These are 40-W speakers which look nice. The price was just around Rs. 1,600 – pretty affordable for anyone. I asked if I could see any Artis models, but the shopkeeper tried to show me 4.1 model of the same Tarang range of iBall speakers.

Artis for those who don't know, has a wide range of speakers of all sizes and types but they are priced well. The shop didn't have any Artis pieces with them, so we moved on to the next one a block away. This shop had some of the models – the S222 and the S111R (R denotes radio). It's a simple feature to have in a speaker set but very few models have that. One of my friends looking for the 5.1 speakers enquired if Artis sold any 5.1 speakers. They happen to, and they're called S-5555. The shopkeeper was willing to sell it for Rs. 3,400 or so. I suggested to my friend that we look around a little more before making the payment and leaving.

I knew that Logitech's Z-5500 was one of the most powerful 5.1 systems around. I asked to see if it was available any more and at what price. I got a quote for Rs. 20,000. The Audioengine A5 was unaffordable but I had a suggestion – the Audioengine A2. The 30W A2 is also very powerful even though it's a small set of speakers. The price of the A2 is almost half that of the A5.

One of the other options I was looking for was the Klipsch Promedia 2.1. That too was difficult to find and was priced at Rs. 9,500. Once again at this shop, there were some trying to convince to go in for some iBall speakers.

There were also some older Logitech models around. The 2.1 Z-2300 speaker set is still around Rs. 7,000. The X-530 which is a 5.1 speaker set sells for Rs. 5,000.

One of my all-time favourites, the Altec Lansing MX5021, the powerful 2.1 speakers are also stuck at more or less the same they were some two years back – Rs. 6,800. Some of the recent buyers have complained of quality issues with the speakers. Maybe, you'd want be a little cautious with them. For those with a lower budget, the BXR1121

is the way to go. The price is also a very wallet-friendly Rs. 1,300. Altec Lansing doesn't take many powerful 5.1 speakers. If you want something from them, then the FX5051 should be it. The price is Rs. 10,500 but I don't honestly like them.

They have a stylish design though. Another stylish design with decent audio quality is the VS2421. They're just a 2.1 speaker set but are priced at Rs. 2,400.

Creative hasn't been making the most quality speakers in the past few years. The T6160 changed our mind when we tested them in the test centre a few days back. The product isn't available easily just yet. The price is an affordable Rs. 5,000. The older models are still present. The Inspire M5300 which is an average 5.1 speaker set sells for a very low Rs. 3,150.



Altec Lansing FX5051



Klipsch Promedia 2.1



Desktops



Everytime, any one of my friends needs to build a PC, they ask me for some advice. This involves me making a list of all the components in a computer – the motherboard, processor, memory, hard drive and so on. A few get dizzy looking at that list. They tell me it's all too complicated and ask whether there's an easier way to get a PC.

Often reluctantly, I suggest going in for a branded PC. Now I know branded PCs are generally more expensive than their assembled counter parts. They don't offer the same bang for the buck, but for those who've never assembled a PC and don't want to, this is an easy way to get a computer home. Walk into a shop, select a model, pay and you have your PC delivered to your doorstep the following day.

Of course, the selecting part isn't simple. You still need to know what goes into your PC. The processor, memory and graphics solution are what will give you the performance. You also don't want to be stuck with a 17-inch CRT monitor or a system with no speakers at all. Shopping for PCs is a little tricky and Lamington might not be the best place to do this. Most of the computer stores do not house retail shops and showrooms of the manufacturers. This means you might have to research a little bit before you actually go out to buy a PC.

There are different kinds of PCs, and obviously, you can't just go buy a PC for gaming for example. Manufacturers split up their PC line-ups for different kinds of users. Typically, desktops for office use are designed to take up little space. They aren't extremely powerful either, but they should come bundled with ergonomic keyboards and decent screens.

I went to the Acer showroom looking for PCs for a small office one of my friends was helping set up. I found a few models under the Aspire Value line-up – the cheaper IE3520 and the IE4740. The IE3520 runs on the slower Core 2 Duo E5200 while the IE4740 uses the E7400, which is a little faster. These processors with the 2 GB of memory are more than sufficient for office applications as well as internet browsers and email clients. These days, don't look for any PC that comes with a CRT monitor. LCD monitors are more compact, generate less heat and save some money in the long run. And not to mention the fact that they are crisper and better performing in most areas as compared to CRTs.

Alienware Aurora ALX



Dell has always been known for offering solutions online. I quickly logged on to Dell's site to look at what was on offer. The Inspiron Desktop is the most sensible solution for this kind of requirement. The processor used is also the Intel Core 2 Duo E5300. The graphics solution isn't great, but then it isn't going to be used in the office. One of the nice things is the included Windows 7 Home Basic. The prices for the Inspiron 545s start from Rs. 23,900. They can be customised to be built around faster processors and better graphics solutions, larger disk space and more memory. There's even the option to choose a slightly different colour panel!



HP Ideacentre A600

We also walked into a Lenovo showroom to see what we could find suitable for both home and office use. The IdeaCentre is one of the new ranges from Lenovo that come in a very user-friendly design. The A600 model looks like a TV at first. It comes with a wireless keyboard and the remote control is used to interact with the computer that's built into the display unit itself. There were different models even in this form factor. The power comes from Intel's T series mobile processors. Prices start from Rs. 48,880.

For more serious computing work in an office scenario, the traditional ThinkCentre A and M series are better suited. They are much cheaper than the Ideacentre A and Lenovo C series of desktops.

If you're looking to buy PCs in bulk and you can't afford the ones priced at Rs. 23,900, desktops from eSys might be worth considering. The desktop without the display are priced at some Rs. 21,000 for a basic quad core processor. Those based on the cheaper E5300 are nothing more than Rs. 13,490 which is almost Rs. 10,000 less than the ones from Acer and Dell.

On the gaming end, Dell seems like the ultimate solution. The recent acquisition of Alienware means these monster desktops are available to all of us in India. The Aurora starts from Rs. 1,25,000, which I agree is a lot of money. It's also one of the most flamboyant gaming rigs out there –

something even people assembling high-end gaming rigs envy. The Aurora ALX which is a higher-end model starts from Rs. 2,00,000. That model uses the Intel Core i7 975 processor. It also comes with 12 GB of DDR3 memory, two GTX 260 graphics card and two hard drives in RAID. This rig can also be customised on the same Dell web site as the other laptops.

Other than Dell's Alienware, I wasn't able to find any other brand that had such performance gaming rigs. People who want to buy gaming rigs then have only one choice – build their own assembled PCs.

One of the newer trends, we've noticed in the desktop PC space is of net tops. They are very similar to netbooks in the sense that they use the same hardware, except they are sold as PCs. Quite a few of the brands included Acer and ASUS have started selling these products.

The ASUS EeeTop and the mighty Acer Revo are some of the models we saw in the malls. Their size makes it very easy to showcase in malls, and you'll also find them in computer shops in your area. The Acer Revo is a very good low-power desktop solution. It uses the Atom processor just like the ASUS EeeTop except this model has the advantage of the NVIDIA Ion platform. This platform brings HD playback to an otherwise dull platform. The brand new ZOTAC MAG falls in this same category of products. The only things missing with the ZOTAC MAG is the fancy compact wireless keyboard and mouse. Anyone looking to buy a PC for their home theatre set-up should go for either the ZOTAC MAG or the Acer Revo. They both come with HDMI connectivity.

The EeeTop also looked very stylish. The design is very modern and the fact that it has a touchscreen means that it's easy to interface with. Anyone at your home could use it even if they had no experience of using a computer.

If you're looking for a net top with no support for HDMI or HD playback, you can look at the eSys Fighter which is straight out of the mill low-power PC. The price is also very attractive – just Rs. 9,490.



ZOTAC MAG



Cell Phones



Cellphones are one of the most common gadget-groups around and definitely one of the most sought after. Unfortunately, they're also one of the most difficult product categories from whence to make a choice, simply because there is so much variety. Touch-based phones that are aimed at young working people and college goers with the money to spend. A serious businessman will prefer the familiarity of his Nokia E90 or Blackberry Bold to the funky interface of an Apple iPhone and yet exceptions exist. This is the beauty of this category – there is simply no accounting

for what reaction a set of features will elicit. And there is no accounting for taste, as they say. When shopping for a cellphone I always suggest fixing of ones budget first. This may seem tough, because there's always the desire to spend just another 2000 bucks, especially if there is something with a particularly desirous feature that is just beyond ones current budget. This rule, does not apply if you have already decided what features you want however.

Windows Mobile (WM) was designed with a stylus in mind and migrating to a finger-based interface without changing the underlying OS wasn't the best idea. There remain some actions that are virtually impossible to perform accurately and intuitively with a capacitive-touch interface. One of the first devices based on WM 6.5 is the HTC Touch HD 2, based on a 4.3-inch capacitive touch display with amazing internals like a 1 GHz Snapdragon CPU from Qualcomm. I feel WM 7.0 will be the real deal and probably as close the Apple iPhone in terms of a seamless interface as I'd like to see. That being said, another phone to watch out for is the Sony Ericsson XPERIA X10 – an Android-based device with a custom UI and ultra-snappy Snapdragon processor. Android is a wonderful, well thought out platform that competes well with WM in terms of features, usability and performance.

Let's get back to the present. I visited a couple of Tata Croma outlets in the area and was surprised to see the interest for the Nokia 5800 Xpress Music topping the list, according to what the attendants told me. It seems people like the idea of a music phone with a large touch-screen and decent camera. Having tested this phone, I can vouch for it's decent all-round performance. The price has fallen to the Rs. 13,500 mark and for this price it makes a good deal for someone looking for a feature loaded phone – GPS, Wi-Fi, large screen, 3.2 MP camera, inbuilt storage with expansion – this phone has it all. I didn't like the interface though – it's too quirky being a resistive touch display. This is my problem with the Nokia N97 as well – although feature-rich I feel Nokia got the interface dead wrong. The N97 is nicely priced though, it seems



Blackberry Bold 9000

after its initial launch price of above 40,000 bucks, (which hardly anybody thought it was worth), it's down to below Rs. 30,000 – I saw it selling for Rs. 28,500 – a decent deal, but I still feel it's a waste on account of the interface.

One phone that really pleased me was the Samsung Omnia HD. Not only does it have a capacitive touch screen and a very good on-screen keypad, the device runs Symbian – that is pretty snappy and works well with a finger-based touch interface. The Omnia HD has other tricks up its sleeve, like an 8-megapixel camera and 720p video recorder. It also has a nice screen and is a good option for those who want a cheaper alternative to the iPhone. Priced at Rs. 27,500 or thereabouts, I feel the Omnia HD is a really good option for someone looking for a multimedia-rich smartphone. I also came across LGs KM900 Arena, a phone that we tested earlier – priced now at around Rs. 23,000, this phone has an amazing screen and very nice navigation owing to the 3-inch capacitive touch display. I prefer the Samsung Omnia HD. For someone looking at decent smartphone mainly for music, I recommend Sony Ericsson's W205 – priced at the Rs. 4,900 mark, this is a neat phone, the screen isn't too great but I couldn't find much else to complain.

I've found QWERTY keypads to be a double-edged sword. You get a full keypad that allows quick typing out of longer mails, yet I find a number keypad faster and more convenient for text messaging – probably because a QWERTY needs a little more concentration and probably two thumbs which means two hands. However, If you think that every QWERTY phone is amazing for mails and working with documents – think again. This depends on the design of the keypad. I absolutely loved the keypad on the Blackberry Bold and the Blackberry Curve 8900 – although different from each other, the bevelling of the keys, the gaps between each key both vertically and horizontally and the keypad layout was really intuitive – such that it allowed quick use. For a QWERTY phone, you need to use the keypad before buying it, especially if you're buying one for functional use of the keypad rather than



Nokia E63

show as some people do – the status or coolness factor of being seen hefting a PDA-phone is sometimes too much to resist.

Sony Ericsson XPERIA X10



I enquired about cheaper business-oriented phones, which pretty much means a QWERTY keypad, but I was interested in phones costing less than Rs. 15,000. The Blackberry Curve 8520 is priced below the Nokia E71, at Rs. 15,000 and seems like a decent option – though it's not as well built and the E71 has a better keypad. Nokia's own E63 is also available for as low as Rs. 11,500 and this is a neat deal for someone looking for a full QWERTY phone, as it's about the cheapest decent option available. It has a smaller battery and camera and is not as well built as the E71, but is a whole Rs. 5,000 or so cheaper. If you're looking for a cheap option, I recommend the Blackberry Curve 8520 and Nokia E63, depending on how much you can spend. As amazing as Blackberry's higher end phones are, I'm not a big fan because quite simply these aren't value-for-money and there is much better hardware on superior handsets available for the price commanded by the likes of the Blackberry Bold and the Curve 8900. Corporate users who think that push mail doesn't work as well on other handsets, please re-think, a Nokia E71, will give you the same level of usability for a much lower price. Obviously, features like Blackberry Messenger and such are useful, but the premium is hefty. Apple's own iPhone 3G available from carriers Vodafone and Airtel is, in my opinion not worth it. The handset is definitely good for multimedia and it's good as a phone, but for text and emailing, I do not like the lack of a hardware keypad. Additionally, with the latest firmware, the iPhone 3G slows down considerably and battery life also takes a slight toss.

I couldn't find anything in the malls or electronics stores that caught my fancy. Even the Sony Ericsson Satio with its lovely 3.5-inch display and the mighty 12-megapixel camera didn't seem as attractive. The fact is after having used Symbian for quite a while now, I'm ready for a change. I guess I'll postpone buying a phone till the XPERIA X10 launches, the idea of a 4-inch capacitive touchscreen is just too much to resist. Till then, my trusty old N95 8 GB will just have to suffice.



Graphic Cards



Nothing gives your PC a shot-in-the-arm like a shiny new CPU and/or GPU. I'm also passionate about gaming and that needs a good graphics card. These days with folks at NVIDIA and ATi exploring the use of GPUs for more multi-purpose processing than just pixel, vertex and geometry shading, there could be tangible benefits to non-gamers for buying a good graphics card. Besides this, the visual revolution, whether it's Windows with its 3D (Aero) look or Snow Leopard's snappy UI, is upon us and to enjoy the richness of today's multimedia content you need some sort of 3D accelerator (remember the days when graphic cards were called that?)

DX 11 is the new thing and we've seen a couple of DX 11 titles like *Battleforge* and *Grid 2* in action. From the looks of things DX 11 will be, as good (if not better) looking than DX 10 and the optimisations make it up to 30 per cent faster. On

future games, we're bound to see visual improvements as well as developers spend some time with the new API. They also have 30 per cent of performance headroom to work with, which should lead to a noticeable hike in eye-candy. That being said, if you're not a hardcore gamer looking to play the latest and upcoming titles, you can easily



ATI HD5870

make do with an older generation DX 10-based graphics card. DX 9 graphics cards are still available, but they're not really worth it, since the price difference between them and the entry-level DX 10 cards is hardly anything.

The way I see it, audiences for graphic cards can be divided into four categories.

1. Those who are buying a basic PC and have basic needs including some multimedia usage including the odd game
2. People who are buying a slightly more powerful PC for multimedia and also want to play some games
3. Casual gamers who want to play all the latest games with fair levels of detail
4. Gaming junkies who demand the best gaming experience and therefore will be willing to invest a sizeable chunk of dough in a top-end graphics card

If you're a regular PC user, whose usage pattern is thus: a lot of surfing, some movies, the odd game you should look for something basic and priced at within Rs. 3,000. This includes cards based on NVIDIAs GeForce 9300 GS and 9400 GT GPUs – both of which are good buys. ATI's Radeon HD 4350 and 4650 GPUs are also available. Look for a card with 256 MB of VRAM – you will not need anything more, and do not opt for cards based on the above-mentioned chipsets with more (than 256 MB) memory unless the price difference is minimal – say Rs. 300 or thereabouts. Be on the lookout for dealers who will try to sell you a 512 MB or 1 GB option of such entry-level GPUs – this won't help your cause any and you will end up spending more uselessly. Look for connectivity, especially if you are building an HTPC, HDMI is a must and these cards are very well suited to HTPC users, and will easily display 1080p content on your HDTV.

Many readers write in to me saying they want something basic, within Rs. 6,000 but they're looking to play the occasional game as well. Remember that none of the cards mentioned in the previous category will suffice if playing

games accounts for anything more than 10 per cent of your reason for buying a PC. ATI's Radeon HD 4670 GPU is a good contender for an entry-level gaming solution, as is NVIDIA's GeForce 9600 GT – both of these will play most games at decent resolutions (1280 x 1024 and 1440 x 900) with reasonable detail. Obviously, for games like *Crysis*, *Crysis Warhead* and *Clear Sky* you will need to

turn the settings down all the way. Some of these cards will be available for less than Rs. 6,000 and typically most of the cards will feature 512 MB of RAM – ensure this is DDR3 memory. DDR2 versions can offer as much as 1 GB of VRAM, but being slower this isn't of much good.

For Rs. 9,000 ATI's Radeon HD 4850 is a good card and will allow you to play all games, but you will need to smart with the visual settings. You might also want to look at the Radeon HD 5770, which is cheaper since it's built on a smaller fab, but an excellent performer. For Rs. 14,000 or so, NVIDIA's GTX 260 and ATI's HD 4870 1 GB are hard to beat. Choose either, they're pretty much even.

If you're slightly more hardcore and looking to spend around Rs. 22,000 or so, I have two recommendations: either buy a GTX 285 graphics card for around Rs. 22,000, or save up till you have Rs. 26,000 and blow it on an ATI Radeon HD 5870 – which is a shiny new DX 11 part that outperforms the GTX 285 by a decent margin. In fact the Radeon HD 5870 is a sweet buy and one that is also future (read DX 11) proof. NVIDIA's GTX 295 is faster, but also costlier (at least Rs. 32,000) and I don't recommend it. If you're looking to spend more than Rs. 30,000 on a graphics card, chances are you won't mind spending another 20,000 bucks. If Rs. 50,000 be your budget for a pair of GPUs, pick up two ATI Radeon HD 5870s and buy a CrossFire-supporting motherboard, like Intel's X58.

I haven't mentioned brands, just GPUs. For NVIDIA, I suggest brands like ZOTAC, ASUS, EVGA, XFX and Galaxy. Availability of other brands may be sporadic or I'm not as convinced of their quality and service. For ATI, choose from Sapphire, XFX and PowerColor and ASUS – the three most trusted brands for me.



ZOTAC GeForce 9400 GT



Laptops



With the possible exception of cellphones and HDTVs, not other product category garners as much interest as notebooks. Manufacturers have quickly realised that notebooks are very personal, more personal than a desktop PC will ever be. This isn't something that adorns a lonely desk in your home. It moves with you, a companion, an accessory or even a style statement. Whichever way you look at it, notebooks have evolved into different categories; these are, in turn, representative of the people that use them. Business users would probably look at something upmarket and stylish but in a suave, non-garish manner. Therefore, chrome embellishments would be a no-no, but a metal body with a matte silver or black finish would definitely be suitable. Similarly, gamers would want a powerful configuration with a

lot of lights and such, which is what we see in notebooks from Alienware – a brand that almost exclusively serves that fraternity.

Lets take a brand for example Acer. They have a classic line of notebooks and there is a model called the Aspire 5738G priced at around 40,000 bucks. This product has a good CPU and GPU and 4 GB of fast RAM – it's obviously aimed at someone looking at a powerful notebook. The look is strictly functional. Acer also has another product line called the Timeline series, which are stylish, slim notebooks. One of the products is the Timeline 5810T – nearly identically priced the Aspire 5738G, but it's got a very basic processor, no GPU and a smaller hard drive. The difference comes in the super slim design and the use of metal in the lid and body, unlike the Aspire 5738G.

Given such an example it's all the more important for people to understand differences between products irrespective of the pricing. I still see people going to

electronics malls only to get confused between two or more models having similar pricing. The differences are typically ill explained by attendants, who are either misinformed or just do not know better. The decisions are then based on inconclusive facts like the processor – Core 2 Duo has become a buzzword – everyone uses it, nobody knows what it signifies. Others buy based on the size of the included hard drive. Some will conclude that 3 GB of RAM is better than 2 GB and buy accordingly. I've seen people buying on the basis of processor clock speed and the assumption that a bigger screen means the notebook is faster. You might have a laugh reading some of these cursory mentions of purchasing goof-ups, but just think about how many people you know would have bought a notebook on the basis of such faulty logic.

The quest for something that is perfect for you actually starts with defining needs and necessities. Many people do not even need a notebook and buy one simply because desktops are similarly priced. You need a notebook if you need to be connected on the go or if you work in an office where desktops are frowned upon. Students working on college projects at home, do not need a notebook, unless their college makes it mandatory – mum and dad, please keep this in



Apple Macbook Pro 15.4

mind. Obviously, if your son is studying in another city or overseas he will need one. Kids wanting to play games need a desktop. And a desktop will always have faster hardware, given the same price as a notebook. So if you've read this and still feel you need one, you now need to decide what sort of notebook you need.

If you are such a person who wants something compact with very good battery I have only one suggestion really – Acer's Timeline 3810T. I came across this model in a Tata Croma near my place and remember nearly everyone in our Test Centre going gaga about the product. It's got an Intel SU3500 CPU, which is pretty basic, but this doesn't matter for office automation work and mails. Battery backup is very good owing to the low-power components. And the notebook is a stunner with its gun-grey metal body. It's pretty lightweight and slim and feels sturdy. The keypad is also quite comfortable. The price is around Rs. 31,999, and I noticed Acer bundling an external DVD writer within this price tag. I reckon 32,000 bucks is a sweet price for this notebook and anyone looking for something portable yet functional with classy looks will be well served. The 3810T is perfect for businessmen and executives on the move, such people don't need much performance but just to be connected, which this notebook will more than fulfil.

For someone looking at a desktop replacement notebook, I recommend Acer's Aspire 5738G. It's priced at Rs. 40,000 (39,999 actually), and makes a sweet deal for the price. The screen is also pretty big at 15.6-inches and this is a plus for home users who will also watch movies. You can hook it up to a large screen TV, as it has HDMI. What I like is the presence of a good GPU in a sub-Rs. 50,000 notebook.

Unless, you are going to be watching Blu-ray or HD content on your notebook, or gaming, or using 3D animation packages or even image editing, there is hardly any need of a discrete GPU. Don't be attracted to a notebook just because it says "GeForce Go" or "ATi Mobility", I've seen people who need a notebook just to surf end up buying one with a discrete video solution just because somebody recommended one. If you do want to play the odd game or watch HD content, you may want to check out something in the range of the GeForce GT 130 or the ATi Mobility 4350 – these are pretty powerful notebook solutions.

I came across a couple of high-end Sony Z series notebooks. Touted as their business class solutions, these supposedly have carbon fibre used in their construction and are suitably compact and lightweight. Build quality seems exemplary and one model I saw even had an SSD as storage but I have a few concerns. For one, the resolution is 1600 x 900 pixels. This is too big for a tiny

13.3-inch display, making icons and text microscopic. Plus, this is a business notebook guys, what the heck is it doing with a very wide screen (16:9) that is mainly for HD movies and such. Secondly, these notebooks are really expensive, a bit too much for my liking, even for their pedigree. The Vaio VGN-Z48GD was otherwise excellent, and the Core 2 Duo P9700 processor is serious overkill. The GeForce 9300M graphics solution is similarly overpowered, at least for it's targeted audience. It also comes with two 128 GB SSDs in RAID 0 – a killer storage subsystem to be sure. At just below one and a half lakhs, this is a premium notebook and a wonderful piece of gear, but I hate the high-res screen. Dell's Adamo and the Macbook Air were also available, they're equally gorgeous but for that price, you could buy a *sensible* notebook *and* a PC. The Fujitsu T5010 was another beauty. The *T* indicates it's a tablet, and the display can swivel either side. This notebook is also configurable and has a neat 13.3-inch display. The version I came across had a Core 2 Duo P8700 processor, 4 GB of RAM and a 160 GB hard drive. This was also priced at the out-of-reach-for-me 1.5 lakh mark. There were a couple of HP notebooks worthy of mention. Although the Elitebook is a serious corporate tool, I feel these are a little too industry-grade for me. The simple aluminium body and matte black keypad is not my cup of tea – a little too plain. The HP ProBook 4410S also has a neat professional look, but the finish on the lid is amazing. It's available in black and purple (the two colours I came across) and surprisingly it's well priced – Rs. 40,000 for a very decent Core 2 Duo T6570 (2.1 GHz) with 3 GB of RAM. But the jewel was undoubtedly the HP dv2. I saw the black model that has a very riveting design on the palm rest and the finish on the entire body is satiny – this is one chic looking notebook. The 12.1-inch display, AMD Turion Neo x2 processor running at 1.6 GHz, and a Radeon 3410 graphics solution. Priced at Rs. 40,000, this is a very good solution for someone looking at something even smaller than a 13.3-inch notebook.



Dell Studio15



Netbooks



I've been wondering; I need a computing device - something that's small, light and that's just enough for me to access the internet and maybe watch a few movies and listen to some cool music in my free time. And no, I can't always use my mobile to do that. I move around a lot and I can't think of lugging my huge Alienware gaming laptop around the place.

Many might think netbooks are just over hyped cheaper laptops. I look at it a little differently. Netbooks were made keeping power consumption and battery capacities in mind. One of the things manufacturers did was put Intel's low power Atom processor, which brought good battery life to netbooks within the Rs. 25,000 mark. Such battery life would normally be

found on the elite ultra-compact laptops worth Rs. 80,000 and above. The compact size and light weight was also the other very interesting characteristic in netbooks. The only major component missing in a netbook is the DVD drive. You'll have to purchase an external portable DVD drive for use with your netbook if you need one. With our online dependency increasing and the average disc space constantly on the rise, DVDs are becoming less important.



BenQ U121

It's been a little more than a year since the netbook phenomenon first began. Now, everywhere you go, every electronics shop is flooded with netbooks from every laptop manufacturer you can think of. You can see them at your local mall and showrooms.

I remember Acer, ASUS and MSI were the first ones to bring netbooks to the country and they're still around getting new models out. ASUS' EeePC has been a hit because of the first 1000H model which came with the 6-cell battery that keeps the netbook powered for well over 5 hours. The model was then priced at Rs. 26,000. Models with similar configurations are now available for a little less. Whichever netbook you go for, opt for one with a 6-cell battery or you'll be limiting yourself to around 2.5 hours of up-time with the standard 3-cell battery that most netbooks come with.

Since day one, the Acer Aspire One has always been a favourite for those who are looking for more than just utility from their netbooks. They're attractive to look at and are built pretty well except for a few design flaws that involve the keyboard and the trackpad. While I was at this mall, I saw the newer version of the Acer Aspire. Its 11.6-inch model is worth taking a look at.

Try and steer away from the Z5xx series of processor netbooks. While the Atom N270 isn't a very powerful CPU, the Z5xx series is in fact a slower single core processor. ASUS' 1101HA and BenQ's U121 are two models with larger screens, but they both use the Z5xx processors. If you want better battery life, models with this processor lineup will help. Netbooks with SSDs are a tiny bit lighter, but then you pay a premium for it.

Sony's netbook was also on sale. The VAIO W as Sony calls it, is

more expensive than the rest of the netbooks at some Rs. 27,000, but it comes with a fancier design and a screen that runs at 1366x768 instead of the standard 1024x600 or 1024 x 576 resolutions on other 9 and 10-inch displays. This means slightly fine and crisper images, but text can be a bit of a problem.

A few other things to keep in mind while choosing a netbook is the placement of the keys on the keyboard. Before of the restricted space, manufacturers might compromise on some of the keys by making them smaller or removing them altogether. I've seen weird positioning of the mouse buttons on the trackpad. The old Acer Aspire One had tiny directional keys. We've seen the MSI Wind with the Function key placed at one corner instead of the [Ctrl] key. These are things you can live with but initially, you'll find this change very annoying.

The operating system on these netbooks is the other factor to keep in mind. With Windows 7 out, look for it when you're selecting your netbook. Most netbooks sell with Windows XP Home pre-installed. Netbooks with Linux or no operating system at all should typically be a bit cheaper than these. Also, almost every netbook today comes with 1 GB of RAM. Having 2 GB is a lot better. Make sure the model allows upgrading memory to 2 GB.

One of the developments taking place is with the platform itself. Netbooks running NVIDIA's Ion platform are expected to be here soon. They still use the Atom processor, but with the superior graphics solution, the Ion will drastically improve the graphics performance and HD playback capabilities. If you're thinking of purchasing a netbook right away, it might be worth waiting for.

BenQ U121



Sony VAIO W



Digital Cameras



There have been so many cameras in the market these days and I see so many people simply purchasing cameras by referring to the specifications. The term megapixel means so much to people when they're browsing through showrooms and malls looking for a camera. We've gone over this so many times now – sensor resolution isn't everything and digital zoom isn't really of much use either.

First, let's brush up on the kinds of cameras available. Manufacturers continue to break them into smaller sub categories. Besides the standard

point-and-shoot cameras and digital SLRs, there are the pseudo SLRs or the super zoom or bridge cameras as they are better known as these days. These are cameras with a huge optical zoom lens and share many of the features of a DSLR camera. The ease of use is similar to any other point and shoot though.

Once you've decided on what kind of camera you want, there's a few things to look for. The sensor size although not talked about a lot is important – it's an important component that's responsible for the detail and quality of the photo and is not to be neglected. The zoom lens is also important if you plan on using it to shoot long range photographs of wildlife

Nikon D90



or any kind of action sports. Obviously, you also should pay attention to other factors such as the build quality, the ease of use and what kind of memory it uses. If you're buying a DSLR, there's also the availability of accessories such as the lens and flash units available for that camera.

Back to the shop, I found some people looking at the very attractive PowerShot SX series from Canon. The SX120 IS and the SX200 IS models were the ones. The SX120 IS was a little affordable at around Rs. 13,000. The SX200 IS is the slightly more expensive model. I had a quick look at the camera and remember handling it in the test centre. It's a well-built camera for sure. If you can spend the few thousands more, go for this. Samsung, although not best known for its cameras, has a few models which come with exceptionally good lenses. Samsung's ES55 is one of the models that we highly recommend if you have a smaller budget.

Now, Canon isn't the only one making these super zoom cameras. One of the most power zoom lens cameras comes from Sony. Their DSC-HX1 model had a powerful 20x zoom lens – that's more than enough to shoot objects some 500 m away, assuming you have clear conditions. One of the things I realised while I was at this shop was that people were actually enquiring about DSLRs. They all had an understand that they were superior cameras

but when they tried their hands at them, they felt they were a little confusing to use. Cameras that could give users the quality of the DSLR while keeping the controls more or less like a conventional point and shoot would be great. Canon had one model – the PowerShot G10. The G11 was supposed to be on its way to the market, the shop keeper informed me. I remember looking at the specifications of this camera on the site. It has a better sensor for sure than every other point and shoot. It's also a costly camera with a market price of Rs. 29,000.

DSLRs have slowly gained popularity among enthusiasts. The thought of small sensors and limited controls is unbearable to some, which makes the DSLR ideal for such users. Dropping prices have helped the trend as well. Once you've thoroughly used a point and shoot,



Canon PowerShot SX 200 IS

there's little reason to not upgrade or buy a second camera – a DSLR.

Nikon's D40 and D40X are affordable DSLRs if you can find them anymore. Look for well maintained second hand pieces if you're willing to go in for one. You should find them for well under Rs. 18,000. This shop didn't have either of the two models but they had the D60 which is a good upgrade to the D40X. The shop only had a couple of pieces left. This model is getting phased out by the launch of the newer Nikon model – the D3000. It's the one to go for if you have a budget of somewhere around Rs. 35,000. If not, the D60 is next best choice. Canon's EOS 1000D was also there, but I didn't get the right feel holding the camera.

Olympus and Sony models were also present there. The Sony Alpha A200 is a very good alternative to the expensive DSLRs. The newer A220 hasn't been received very well from initial reactions by critics. Last I saw the A200, it was priced at Rs. 22,000 in the market – that's well under the price of the G10. It's not an excellent camera in terms of build quality and controls, still the price has to be impressive. If I had a really tight budget, this would be the one I would buy. Olympus' E-520 was the other camera which was priced Rs. 28,995 with the stock 14-42 mm lens.

For those with a larger budget, the Nikon D90 is the most desirable DSLR around at Rs. 68,000. It's a great camera and it has a nice 18 – 105 mm lens. The lens' performance in terms of zoom is not at the same level as say a super zoom camera, but it's still a lot more than you find with other 18 – 55 mm stock lens. If you can afford it, the Canon EOS 5D is one of the best mid-range enthusiast DSLR to go for. The EOS 5D is priced a little more than the Nikon D90 just shy of Rs. 70,000. Those who are out looking for something a little smaller and a little simpler to use must take a look at the Olympus E-P1. It looks like a point and shoot camera but has some of the functionality of a DSLR. This also means that you can switch lenses. The price for the E-P1 is Rs. 43,995.



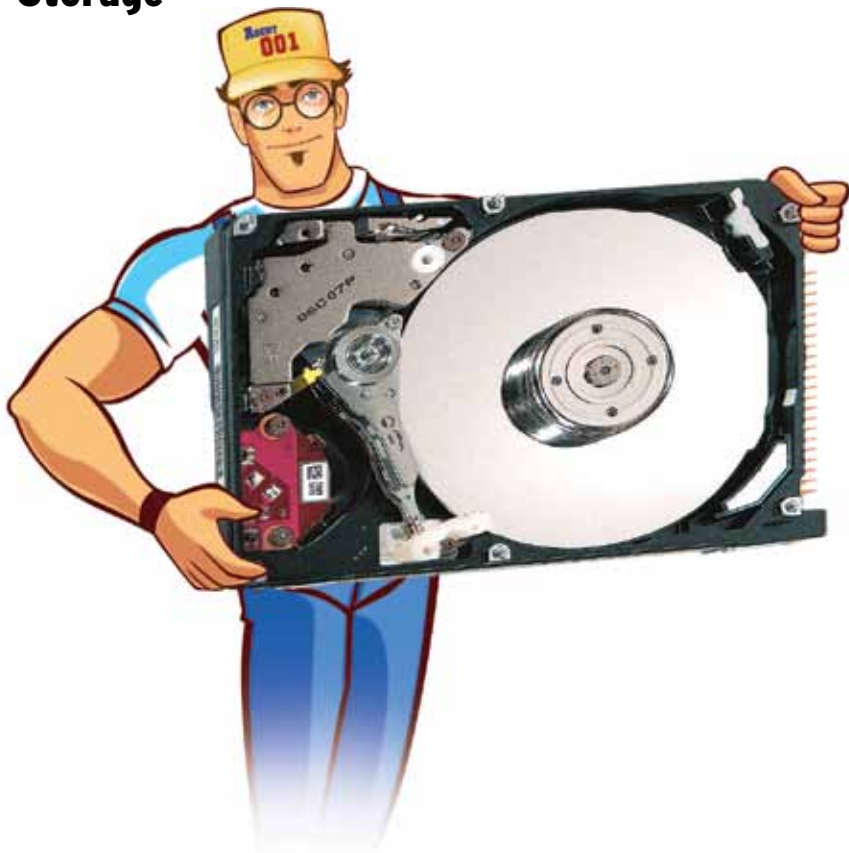
Olympus E-P1

There were also a bunch of teenagers who didn't have a large budget but wanted a digital camera for under Rs. 10,000. One of the things I liked was the screen and also its very colourful and compact interface. The price was around Rs. 8,000. If you really want Canon's natural colours, then the PowerShot A480 and the PowerShot A1100 are the models within this price range. Fujifilm also has a few models in that range and so does Nikon. I like Nikon's DSLRs as much as any other make but for cheaper point and shoots such as L19 and L20, I'm very hesitant in recommending them to anyone.

Having looked through some of these shops and having met customers, I wondered what I could find online. I went on to some online electronics shops and found the same models I saw in the shops. For one, DSLRs aren't as simple to buy online. The prices aren't very accurate either. They are cheaper than the mentioned MRP prices but definitely not the cheapest way to get cameras.



Storage



The last trip I made to local computer stores was to look for storage drives. I knew prices had come down and large capacities had become very affordable. With Rs. 10,000 in my pocket, I had some shopping to do. My Seagate 7200.11 drives had to be retired as well. My local hardware guy first informed me that 2 TB drives were a common thing now. He told me about a Seagate 2 TB drive that he would be getting soon. It would cost me Rs. 11,500. Sure, I was impressed by the capacity, but the shop keeper wasn't sure of the model.

In comparison, the 1.5 TB version was available for just Rs. 6,500. It made excellent sense. For people who have lots of games and movies to store, this is something to think about. For those who want great value for money, the 1 TB Seagate makes equally good sense. In fact, two of these 1 TB drives would be some Rs. 3,500 cheaper than the 2 TB drive. Western Digital's drives were also very similarly priced with small differences of some Rs. 300 to Rs. 400.

That's not all people are looking for. People with just space requirements will be pleased by the Barracuda 7200.12 and Caviar Green series of drives from Seagate and WD respectively. The people who need performance aren't that simple to please I've learnt. There are always those who need the best performance they can

get, from every component in their system and this includes hard drives. For them, my advice is simple – get a WD Velociraptor. We've seen it in the test centre, and it's fast, really fast! Now if you can't afford it, WD's Black series of drives are the ones to go for. Don't be fooled when the shopkeeper tries to sell you a Green edition drive instead of a Black. There are major performance differences and you'll see them when you get system up and running. If you're looking for quiet, cool running single-platter drives, look no further than the Seagate Barracuda 7200.12 500 GB.

SSDs are getting cheaper. Intel's X25-M 80 GB SSD is now down to a slightly more affordable Rs. 16,000 and I was able to find it in a few shops. In the US, it's still a lot cheaper. I'm not so happy with its performance – in places, it shines but in others, it fails to keep up with the traditional motor powered counterparts. Reliability might be an issue as well but that's something that's hard to say right now.

Now, not everyone wants high-performance drives. Some, I'm sure, are looking for large capacity drives that sit outside your system. They use USB, Firewire or eSATA to transfer data from itself to the computer. So with such large capacity external drives, look for drives with eSATA. They offer much higher performance like internal drives. The advantage here



Seagate FreeAgent Desk

is that you can pick up this drive and go to another computer and access the data there. These are great solutions for small offices and you no longer have to depend on the network infrastructure.

Seagate like WD, has a few variants in their external drives. FreeAgent Desk is an external desktop drive and the FreeAgent Extreme is a slightly superior one. The later has eSATA and Firewire as well as USB. With both these models, you'll find 2 TB versions. WD calls their external desktop storage solutions My Book. Variants of it are also available with better performance and security features. The bare essential version is priced at Rs. 5,100 and the one

with eSATA and Firewall a Rs. 1,000 more. Seagate's FreeAgent Desk 1 TB drive is just a hundred or two cheaper than the Seagate. The Seagate FreeAgent Extreme 2 TB sells at Rs. 15,600.

For people who need to move data all the time from one place to another, portable external drives are the way to go. These are the size of small notebooks and they're really light. Capacities haven't gone up as much as internal desktop drives. 500 GB is the most commonly found size and 320 GB size drives are very affordable. For example, both Seagate's FreeAgent Go and WD's My Passport Essential 320 GB drives can be found for just over Rs. 3,000. They are basic drives with none of the bundled software. WD for example has similar drives with the Elite tag made for enterprise users with security and encryption software integrated into them. Even with portable storage drives, Firewire support is present and this makes them a little faster than USB. Transcend sells a few external drives as well. They don't have the same level of categorization as the other brands but they offer low prices. You can get an external Transcend Storejet 500 GB drive for just Rs. 4,550.

For those who want even more compact mediums to moving data around, there's the classic flash drive. USB flash drives don't offer excellent speeds as eSATA and Firewire drives but they're really small. These days, the lowest capacity that you should go for is an 8 GB. Models from Kingston, Sandisk and Transcend are all priced at around Rs. 800. Corsair for some reason is



Seagate FreeAgent Go

some Rs. 200 more. Sandisk models with the U3 software costs a Rs. 100 or Rs. 200 more. All these drives are value drives and will give you average speeds. The next largest model you will find is 16 GB. They are around Rs. 1,700. Personally, I would incline towards Sandisk, Kingston and OCZ for flash drives. In general, I've heard good things about their reliability in their memory products. I was looking to buy a flash drive only because I had small documents and photos I wanted to carry around. For large videos and software, you're better with a portable hard drive instead. At around Rs. 2,700, you can buy a 160 GB portable hard drive. Why even bother with a 32 GB flash drive? If you still want one, look at Corsair's 32 GB drive. It's available in some shops for Rs. 3,200.

Memory cards are as equally popular as flash drives and their prices are also somewhat similar. Memory cards are needed by people for their cameras, their PMPs and their phones. There are different kinds of memory cards for different products. For example, most of Sony products use their own proprietary Memory Stick format. They are a little more expensive. Sandisk, a brand that makes all kinds of memory products also makes Sony's Memory Stick cards. These are relatively simple to buy but there isn't much of a choice. I was able to find Sandisk's 8 GB Memory Stick Duo for Rs.1,900 and the 16 GB for Rs. 3,600.



SanDisk Extreme IV 4GB

SDHC cards and microSD cards are much simpler to find and there's also plenty of brands and variations available. I found plenty of these in the market. You'll find them in computer stores and you can also find them in mobile phone and camera stores. Kingston's 32 GB SD cards are sold for Rs. 4,000 and Sandisk's 16GB cards for Rs. 3,000. The Sandisk Extreme III which is a high-performance memory card is priced at Rs. 2,200.

For some DSLRs, you need to use CompactFlash memory cards. Sandisk is one of the most used products. They are easily available – the Extreme IV 4GB CF card can be bought by Rs. 2,899. The slightly older Sandisk Extreme III 32GB is slightly better value for money with a price tag of Rs. 6,999.



High Definition TVs



One of the hottest categories of products this year, has got to be the HDTV. I know this must sound clichéd by everyone who is anyone has flocked to electronics stores and malls with the intention of buying one. Three of our own Digit team members have jumped on this bandwagon and one of them, our editor, is actually planning to jump twice – in the same year! He bought a 32-inch Samsung Bordeaux early this year, for his living room, and now harbours plans to buy another HDTV for his bedroom. One of our test centre blokes also plans to buy a large HDTV this year-end. Obviously, amid this shopping spree, they both latched on the most convenient scapegoat around – me!

Choosing an HDTV is no easy feat let me tell you. You have to wade into a mile-wide list of jargon, bust a lot of myths and then search for the best value-for-money option. Unless, of course, you have obscene amounts of wealth, in which case you won't really need to read this. Most people shopping for HDTVs tend to go to malls – very obvious, since the larger ones have good stock of such displays. The most common places that are present all over the country

are megastores like Tata Croma and Reliance Digital. Although malls are a convenient place to check out HDTVs, they aren't always the best place to buy one. For example, if you're sure you want a particular model from say Samsung, (for example), you may get a better price in a Samsung showroom. Obviously, such showrooms are dealers, so they will not have as wide a choice, but their prices should be competitive. So you might want to window shop in a Tata Croma and shop in a smaller electronics showroom if you get my drift.



LG LG80FR

I've also seen many people deciding what to buy in a mall based on the display quality of the units being showcased. I warn against this – all the HDTVs in such large malls are usually set up by non-professionals and hooked up to DVD players or cable connections via connects and cabling of sub-standard quality. An even bigger problem is that the display has probably *not* been calibrated or optimised for the picture it is displaying. When we test such HDTVs, one of the first things we do is ensure identical lighting conditions and other test conditions, down to the cables used and the other test equipment. After all, judging visual quality is 100 per cent subjective and rarely do two peoples opinions converge. I've often come across people in malls frowning at the seemingly washed out picture quality of a TV, only to discover myself, that the brightness level was set at 100 per cent and the display was facing a fluorescent bulb. Another time, two adjacent LG displays, one 32-inch and the other 42-inch, appeared to give very different results. While the image on the smaller TV appeared neutral, the larger one seemed to be oversaturated and the colours appeared to be artificially vivid. Upon asking the attendant what the problem was, the person started fiddling around with the brightness and contrast settings to no avail. After a minute of watching him try everything from switching inputs, to shutting down the display and turning it back on I asked for the remote and had a look. It seemed the problem was as simple as the programmed mode – on one it was set to vivid and on the other it was set at cinema. Once both displays we're identically set, the picture quality was very similar. The guy thanked me, evidently grateful that I hadn't created a fuss but discretely called him over. Take these experiences seriously, many people, not

fortunate enough to read Digit have probably based their buying decisions on what they've seen.

I came across some really small displays passing off as HDTVs – 19 and 22-inch options from brands like Samsung, Sony and LG. As appealing the price may seem I strongly urge you to resist buying such displays. For one, it's a TV guys; you will be watching it from the luxury of your couch, not from 20-inches away, like you do with your computers monitor – size matters. When viewing from a distance of 5-6 feet or more, the tiny size of these screens will put you off. I feel it's worthwhile to save up a bit and invest in at least a 26-inch display. At the moment, 32-inches is the sweet spot in terms of size, and you can find some displays of this size for as low as 30,000 bucks. When shopping, also think about what you are going to be using your TV for. If you have a Blu-ray player with lots of HD content in mind, look for something with a native resolution of 1080p. Note I said “native”, this means this display should have 1920 x 1080 pixels on-screen. 32-inch TVs typically have a resolution of 1366 x 768 pixels, but some costlier models have started supporting full HD i.e. 1080p. The suffix “p”, indicates progressive scanned – this means all the horizontal lines in a scene are drawn on-screen, as opposed to interlacing, where only alternate lines are drawn at one time, which causes the flicker that might be visible to some, especially in fast actions scenes and intrude on the viewing experience. The difference in price between a 1080p and a regular 720p HDTV is hardly around Rs. 5,000 or so and it's well worth the premium. Stay away from lower resolution stuff – your eyes will thank you every time you switch the TV on.



Philips 32PFL5609 98

Once you exceed 37-inches of screen size, nearly everything is 1080p, with the possible exception of some of the older displays, which, quite frankly, are not worth it. I saw Samsungs new LED LCD displays. I've finally given up my lonely battle to call these LED-backlit LCD HDTVs and gone along with everyone, referring to them as LED TVs – nobody relates to them otherwise and I can't compete with LG and Samsung publicity campaigns! For me,

these LED TVs are a bit too new a technology and personally, from what we've tested so far, I've seen issues with uneven backlighting, poor response of the backlight and other minor issues that intrude on the picture quality. I think the older, more proven and mature CCFL-backlighting offers better quality overall, although the LED-backlighting has picked up in notebooks and smaller monitors, I think that this technology needs to mature a bit before it can be used in larger displays. The problems I am referring to mostly occur with edge-lit displays, where the LEDs are placed on the sides and focussed on to a diffuser that allows lighting the entire panel. There is a delay in this case that becomes visible on screen. The other type of LED backlighting, called array-lit or uniform backlighting has the LEDs placed uniformly behind the LCD and this gives much better results. Currently, it's the former technology that is being used, on account of its being cheaper and less power consuming and this is where my qualms lie. However, Samsung's UA46B6000VR and UA40B7000 series are certainly eye-catching. For people looking to buy anything over 42-inches, I recommend looking at plasma TVs – they typically have better contrasts and blackness levels. I came across LGs 60PS80FR – a massive 60-inch plasma HDTV and it just stopped me in my tracks. It was beautiful – amazing blacks and superb contrast and the guy allowed me to try my own Blu-ray video – I was amazed. Rs. 2,00,000 is steep, but this is something for enthusiasts wanting the best. Philips' 32PFL5609/98 is what I recommend for those on a budget. Priced at Rs. 35,000 or so, this display is really nice – great colour and contrast and supports full 1080p resolution. For those wanting a 42-inch HDTV, I suggest LGs 42LG80FR Jazz – priced at Rs. 69,000, this is the ideal display for a mid-range buy. Our editor picked up the Philips 32PFL5609/98 for 34,500 bucks and the other bloke zeroed in on the LG 42LG80FR Jazz, but after a price fall.



Samsung UA46B6000VR



Wi-Fi Routers



I recently purchased a notebook that I use in office as well as at home. The latter usually means I'm curled up in bed working on some assignments. Last year, I also picked up an iPod Touch, and I use it in office to surf as well as listen to music. While we aren't allowed to hook up external devices to our test centre's local network, wireless devices are allowed and I've made good use of this. I have a desktop PC at home that serves as my gaming rig as well and this is hooked up a 1 Mbps Reliance WiMAX connection.

After about a week, I gradually found that, having a notebook, I wanted to surf in bed as well. Up to that time I used to unplug the LAN cable from my PC and use my notebook on my PC table, but after a while, this exercise became quite an annoyance. It became quite obvious that I would need a

wireless router. Initially, I had a few reservations about what sort of router I'd need. The possibility of signal attenuation reared its ugly head; although my place is fairly small, I was still concerned because the router would need to be placed in my hall near my PC and there is no direct line of sight to the bedroom, especially the spot where notebook is typically used. I didn't need a high-end router, but I definitely wanted something that would work properly with this set-up.

Now Wi-Fi routers aren't something you can buy from malls, so after some extensive reading up on models available, I took a Friday off from office and caught an 11 am local train to Lamington Road. Once there, I made my way to the first big hardware shop I spotted and enquired about routers. He suggested an ADSL router, which I did not want. For one, I have a LAN-based internet connection and most ISPs these days prefer this over the older RJ11 (telephonic) connect. An ADSL router basically has a modem inbuilt into it and features both RJ45 (WAN) and RJ11 connects. Since I was sure I would never be using an RJ11-based ISP, it didn't make sense to shell more for an unused feature. Explaining to this guy proved futile, since he was convinced that an ADSL router is faster than a regular router.

If you are shopping for a Wi-Fi router, please consider an 802.11n one. Wireless N is the latest protocol, supporting greater speed, better range and coverage over the previous standard Wireless G or 801.11g. The latest craze seems to be dual-band routers. These routers operate on a 5 GHz frequency as well as the de facto 2.4 GHz band. Since each band offers a particular bandwidth, the effective bandwidth doubles, meaning greater throughput. Although this is pretty useless for most of us since our internet speeds are a



Linksys Router

fraction of the 150 Mbps theoretical limit that Wireless N offers, it does make a bit of a difference for those looking to transfer large files over a wireless network or those looking to stream 1080p content over more than one client – a situation that occurs very rarely, but it is a usage scenario. The advantage of a 5-GHz band is that it suffers no interference, whereas the 2.4-GHz band is more common, being shared by cellular and radio signals, Bluetooth devices and such. There is a difference between dual-band and dual-band simultaneous devices – the latter allow both 2.4 and 5 GHz bands to be used simultaneously.

One thing you must keep in mind when shopping is the distance the wireless client is going to be placed from the router and the solid obstacles in between. Metal, concrete and therefore walls are great signal attenuators and will scramble nearly any signal. This is where the dual-band, MIMO routers come in, they offer slightly extended coverage and a slightly more powerful signal and this can make all the difference. Thankfully, you needn't have a clear line-of-sight in case there is a wooden door or glass window somewhere in the room, preferably in the general direction of the room in which the router is placed as signals pass through wood and glass without notable loss. If you have a smaller house and are only looking to connect a single notebook, don't spend more than Rs. 3,000.



Netgear WNR2000

The second shop had the Linksys WRT610N, which is a simultaneous dual-band router with a USB port, this is known as storage link, a fancy name, but what it actually allows is usage of any external USB-based storage to be accessed on the same IP as the router – good for file sharing. This router was priced at Rs. 9,000 – a bit too costly for me. The WRT320N from Linksys was also on display. Priced at Rs. 6,500 this router has two N bands, but you can use either of 2.4 or 5 GHz, not simultaneously. The four LAN ports are advertised as Gigabit, but this is no big deal to be honest. Both these routers support MIMO, which is useful for greater reliability since it creates multiple connection tunnels that improve signal integrity. Upon asking for

something cheaper he showed me the WRT120N – this struck me a sweet deal, it's a wireless N router sans frills and is priced at Rs. 2,600 – suitable for someone who wants to connect multiple devices used for browsing mainly and for smaller homes, like mine.

If you are a discerning buyer, please do some reading up on the chipset used in the router as this affects performance. Atheros chipsets, for example, are poorer performers while the better chipsets come from the likes of Broadcom and Intel. However, for most users, this will not matter a great deal and many will not even notice a difference. Placement of your router is also important. As much as possible avoid keeping it amid other articles on a table, a clear line-of-sight is important. Also avoid keeping it near metal objects. Before buying, check if the router is also wall-mountable, useful if you have less desk space. Mounting on a wall also eliminates the problem of line-of-sight. You'll need to check with your notebook which spot offers optimal coverage, but really for surfing, this does not matter.

The next shop had the Linksys WRT160N and Netgear WNR2000. The latter was priced very well at Rs. 4,100 and the WRT160N available for 5,500 bucks. The WNR2000 is something we tested this year and I must say, if you're looking at a real fast performer, or you have a larger home this is very suitable, especially since it's well priced. I also came across DLink's Xtreme 655, priced at Rs. 8,500 this router also has a USB port and is built pretty well, though not as good as the Linksys routers.

My heart was very tempted to throw caution to the wind and over-spend on the WRT610N. After all, even if I never used the dual-bands or the storage link feature, I'd have a flagship router. However, common sense prevailed and I settled for the WRT120N – I managed to get the guy down to 2,500 bucks. Upon reaching home, I opened her up and set things up. I heaved a sigh of relief as I found that even this, basically an entry-level N router was able to provide very good connectivity and signal integrity. I hooked up my cellphone, iPod Touch and my notebook and was relieved to see all three devices surfing pretty snappily. Being myself, I immediately upgraded my routers firmware to the latest version available and updated all drivers and software. Now I can proudly say my house is Wi-Fied; and I get to enjoy surfing from just about anywhere within it!



Processors



If you aren't a hardcore gamer, the processor is the most important component inside your PC, and you'd better spend quality time deliberating over which one you will buy. These days, thankfully, there's no shortage of choice, but to some that is a double-edged sword – for choice has never been an easy affair. Take a typical gamer for example. Does he spend a little more and opt for a quad core processor over a dual core, given that games are slowly becoming multi-threaded, or does he resist and put in the extra 5K or so on a better graphics card? The answer is a little more complex than the question. Operating systems are also becoming multi-threaded and multi-tasking always benefits from more cores. So he could (theoretically), run a torrent client, burn a DVD and game simultaneously with a quad core.

Let's face one thing – clock speeds aren't as important as they used to be. Intel and AMD are moving away from raw speed and focussing on adding other performance-boosting features to their CPUs. Faster caches, more cores, larger caches, lower latencies, the ability for one

CPU core to work on two threads (called Hyperthreading or HT by Intel), automatic higher clocking of a single core, when other cores are idle, improved registers, to name but a few. You need to be savvy when choosing a processor, what suited your friend's needs, may not suit yours.

I took a trip to Lamington Road, Mumbai's hardware hub, disguised as a clueless shopper. Deliberately staying away from the smaller, one-man-show shopkeepers, who would recognise me and clam up when I asked for information, I threaded my way through the first street, until I came to a junction. My mission was thus – I was shopping for the cheapest CPU offering bang-for-buck. And I wasn't going to settle for less than a dual core. I was also looking for something the ideal CPU within a price range of Rs. 8,500 – which is similar to the budget of a lot of readers writing in. Finally, I wanted to see which CPU was hot, when it came to sheer performance, but for a goodly budget of Rs. 15,000 – and I wasn't going to spend a penny err paisa more.

A few vendors believed that AMD could not be beaten, when it came to extreme value. They were quick to point out to the AMD Athlon x2 6000+ - which although a 3 GHz part, is an older CPU. One guy showed me the Athlon II X2 240 and 250. The former is priced at Rs. 2,999, and is a new 45nm part, running at 2.8 GHz and with 2 MB L2 cache. Indeed, this CPU is quite the beast, for it outperforms any Intel CPU in that price range. I also came across the Intel Pentium Dual Core E5200 and E5300, and while the price was similar, these cannot match the X2 240 in terms of performance. This CPU, in my opinion, is perfect for anyone looking for a good all-round PC or even an HTPC. Some other vendors also spoke about AMDs overheating problems and how customers were complaining. Their solution was to buy an Intel CPU. I beg to differ. I haven't seen any 45nm, AMD CPU heating beyond even 50 degrees, so I have to wonder about the validity of this claim. In fact, for up to 4,000 bucks, you cannot get an Intel CPU that matches AMD in terms of value, and I strongly suggest you do not listen to contrary prattle. AMDs value-for-money dominance



continues right up to Rs. 7,000 or so. One vendor, who seemed to be better informed, or rather unbiased, told me to buy the Phenom II X2 550, if I wanted great performance, for just under Rs. 6,000. He (quite rightly) informed me that this CPU was better than the Intel Core 2 Duo E7xxx series that are similarly priced. He claimed AMDs problem used to be the lack of a stable platform, but with vendors like ASUS, Gigabyte and MSI making good, cheap AMD boards based on AMD's own platforms, this problem was solved and this guy recommended AMD to everyone looking to spend up to Rs. 7,000. I couldn't find anything more than dual cores for this price – it seems the prices of quad cores and tri-cores (AMD has those) have not fallen as much as I expected.

For 8,000 bucks or thereabouts, you can get a quad or tri-core processor. You can also pick up higher clocked, dual cores for the same price – more choices. In fact, Intel's E8400 (3 GHz) and Q8200 (2.33 GHz) are priced identically. I recommend the quad core in such cases – sure, the faster clocks on the dual core will affect some games positively, but for how long, given the drive for parallel processing. The Intel Q8400 (2.66 GHz), is also available for Rs. 8,500 – a scant 300 bucks more. I did see the Core i5 750 (2.66 GHz), priced at Rs. 11,000 with one guy, who told me it was a great CPU and people who had bought it were all praises. The major difference between this and the Core i7 CPU, is the presence of HT on the former, which is actually pretty useful as many applications utilise HT well.

When it comes to the high-end CPUs, I recommend Intel. AMD has heating problems with their high-end CPUs, particularly the Phenom II 955BE and 965BE.

Intel has no such problems, and although AMD now has the distinction of having the fastest clocked CPU, Intels Core i7 CPUs are faster at most applications. If you're looking for something around the Rs. 15,000 mark, I recommend the Core i7 920, look for the DO stepping, which runs very cool and has great overclocking headroom. This CPU is available for as little as Rs. 14,400, making it great value-for-money for those looking at a powerful, reasonably future-proof buy.



Motherboards



One of my friends decided that he had enough with his old Intel Core 2 Duo E2200 system and it was time for him to upgrade to the new Core i5 processor. For him, the Core i7 was too expensive a processor to consider keeping his budget in mind and the board he wanted was too expensive as well. I decided to go along with him to Lamington Road here in Mumbai to find him a decent motherboard for the Core i5. With Intel's new structuring of processors, it's confusing for customers looking to build systems based on these processors. For one most

people, I'm sure, are confused whether the Core i5 and i7 processors both use the same socket as the Core 2 range of processors.

Intel's all new Core i5 processors are soon going to be the mainstream processor and platform to go for, so my interest lies in the LGA1156 socket P55 chipset boards. Just to clarify, some of the high-end Core i7 processors can also be used on this socket so the socket isn't solely designed for Core i5.

We decided to look for motherboards as we had already made up our mind for the processor. The first shop we went to, had Gigabyte's P55M-UD2 board being shown to one of the other customers. It's one of the cheapest motherboards available if you're building a new rig. Priced at just Rs. 6,750, it seemed like a really good deal. We made a note of the price and model before moving on to the next models. The other interesting board that we see was the ASUS Maximus III Formula. This was a premium board from the Republic of Gamers lineup of boards from ASUS. It looked like a very fancy board with a huge heat sink and lots of red. The price wasn't worth it according to my friend.

While I was there, I figured I would look around for other boards and see what we could find for Intel's Core i7 and also the AMD processors. For the top of the line Core i7 processors, there isn't much of a choice. The X58 chipset is the only one available right now. While the ASUS Rampage II Extreme is the one of the sweetest boards to own, it is out of the reach of almost everyone. Few overclockers are going to be the customers of such products and for the rest, it's difficult to justify to yourself paying Rs. 24,950. The Biostar's Tpower X58 made more sense to my friend and so did the MSI X58M, a micro ATX board. He quickly made note of these prices, just in case he changed his mind and went Core i7. Both these models were around the Rs. 10,000 mark. Gigabyte's EX58-UD3R is only some Rs. 14,000 and the ATX version of the MSI X58M, the X58 PRO is also priced around the same.

For the slowly dying LGA775 socket, there are the largest number of motherboards and chipsets around. Intel's P45 chipset seems to be the most sensible one of the lot. ASUS' P5Q range of boards suites almost every kind of scenario. The cheapest board starts from around Rs. 8,500 and the most expensive model, the P5Q Premium ends at close to Rs. 20,000. Gigabyte's P45 range also has a good history and these are the two range of boards I found. I took down the prices in case anyone wanted to know. The cheapest model, the EP45-UD3L only costs Rs. 6,000 and is a very affordable board to build a good system on. For enthusiasts, Gigabyte's DQ6 version of the same

board priced at Rs. 12,000 will interest many. With the Intel Core 2 Duo processors almost extinct, these boards will follow the same fate very soon. Go for these systems when you have few plans of upgrading this rig a year or so from now.



Gigabyte P55-UD3R

For the Core i7 and Core i7 processors, there aren't any boards today that have onboard graphics solutions. For the LGA775, there are Intel's G45, G43 and G41 chipsets from different vendors. NVIDIA also makes the popular GeForce 9300 chipset that performs as well as the 780G from AMD for their platform. The GeForce 9300 boards are more expensive though. The MSI P7NGM is Rs. 6,000 and the ASUS P5N7A for Rs. 8,200. I find I'm better off spending on a basic graphics card instead for paying the premium for performance. Intel chipsets are capable of handling HD with the help of faster Core 2 Duo processors, but they don't come close to the GeForce 9300 in games I've noticed. For really basic office systems that will be used to browse the net and work on office applications, any of the boards based on Intel's G45, G43 or G41 chipsets will suffice. Those boards are just a few hundred rupees cheaper.

On the AMD side of things, all the processors today are based on the AM3 socket. Since the AM2+ and AM3 sockets are quite similar, it's best to look for an AM3 ready sticker before purchasing the board anyway. If you are buying a really high-end Phenom processor, then also look for the power ratings of the board that are compatible with the processor. Some boards specifically mention a 140-W CPU support. Look for those just in case you go in for a really powerful CPU.

Another friend of mine wanted to build an HTPC and he was looking for a good on-board graphics solution. Going the AMD way made a lot of sense and the AMD780G has proved to be perfect for many people. The newer 785G brings a slight improvement in performance, but many boards use DDR3 RAM. Still, I suggested the ASUS M4A78-HTPC/RC to him. We found this board for Rs. 7,000 in one of the shops and it made very good sense especially because it came with a remote control. This means you can sit away from the computer and handle the media operations using the remote instead of a

keyboard. It's easier but initial configuring of the system will have to be done. The newly released AMD 785 chipset is also great for this kind of work and also some light gaming. If you don't want the HTPC board, and something really cheap, the Jetway PN78VM2-LF makes good sense.

Almost all of the AMD chipsets have graphics integrated into them. The AMD 790FX chipset is one such. It's similar to 790GX, but without the on-board graphics. MSI's 790FX-GD70 and Gigabyte's MA790FXT-UD5P are two such models. The MSI model sells at Rs. 9,700 and the Gigabyte at around Rs. 12,000.

Selecting motherboards isn't the simplest thing to do. There are a few things to remember though. The performance of motherboards doesn't deviate a lot so you don't really have to worry - a maximum of between 2 to 5 per cent is noticed across all benchmarks of a board using a single chipset. In general, look for motherboards with PCI and PCIe slots with sufficient space between them. This is just precautionary measure so you can plug in a dedicated graphics card and maybe even an additional sound card. Micro ATX boards will usually have less space to do this.

Make sure the board uses solid state capacitors. Stability and reliability goes up. Also make sure that capacitors are placed out of the way of graphics cards and all the SATA ports. The SATA ports should also be positioned such that the cables from the SATA boards don't run into the graphics cards. CrossFire and SLI support is also a welcomed feature. This



MSI P55-GD 65

means you can add two identical graphics cards and use their combined performance. The cooling solutions used on the boards should also be looked at. Large heat sinks interlinked with copper heat pipes is just part of the norm several manufacturers follow. The cheaper the board, the lesser of it you'll notice.



DVD Players



Sure, HTPCs are the only way to go, but what if you have a smaller budget? DVD players have changed in the last decade since they first appeared. Today, a DVD player can easily play DVDs, compressed formats like DivX and many others. With entry models priced as little as Rs. 3,000, I had to get myself one of these!

I packed up my bags and ran down to the local chain of malls that had come up in the area. I could also have gone to some of the electronics stores, but I felt the malls would be the easiest places to find an abundance of DVD players in the

open. When I reached there, I found the line-up dominated with models from Philips, LG, Sony and also Moserbaer. There were a few models from Intex and the more exotic Pioneer.

Browsing first by the price tags, I noticed that the cheaper models were from Intex and Moserbaer. The most priciest ones were from Sony and Samsung. You would expect the cheaper models to not have as many features as the Samsung and Sony models, but you would be wrong. The Moserbaer MBI6988G was one really impressive model. It had most of the feature set of the costlier Samsung and Sony models, but at half the price. This particular model was just Rs. 2,350 – way lower than the price range I had set out to buy a DVD player.

The local salesman who was watching me headed in my direction with the hope of changing my mind. He first tried to push me to either of two Intex models. Those two models were some Rs. 400 more than the Moserbaer, but with similar features and slightly inferior build quality.

For those wondering over what these features are that I've been going on about, I'm talking about the ability to play DivX video and MP3 audio playback at the least. Ability to read from USB as well as memory cards is an added bonus. You can't really be burning DVDs or CDs for every video or movie you want to watch. The USB connectivity makes life much simpler. Simply plug in an external hard drive or use one of your USB flash drives to play movies off it. The memory card reading should cover all standard formats – SD, MMC and preferably also memory stick.

The HDMI connector is another handy feature to have, especially if you use a LCD or plasma TV. That's something I wish the Moserbaer MBI 6988G had. The HDMI option means I just need to connect one single cable for audio and video – it even gives me perfect audio and video quality! Eventually, I had to settle with component cables. Speaking of which, make sure the player that you buy comes bundled with these cables or your next stop will be another electronics store and not your living room. If you end up with a model that has HDMI, remember that you'll have to spend at least Rs. 400 for a decent 2-m long HDMI cable.

One of the salesmen also tried to emphasise that some of these models had 1080p and 1080i support. It didn't look like he knew what these terms meant or what the differences were,



Panasonic DMP-BD60

but he went on repeating the fact that the models supported it. The 1080i or 1080p is only supported resolution. Most of the content that you view is upscaled to 1920x1080 from say DVD resolution – that's taken in almost every model you can find. Playing videos at native 1080p resolutions is something almost none of the DVD players do. For that, you need to shell out more on an HD media player such as Western Digital's HD Player.



Samsung DVD H1080

Having made my initial choice for this purchase, I went over to the other Sony and Samsung players to see if they were any better with the price increase. I was disappointed to see the costly DVD-H1080 priced at close to Rs. 5,500 had no memory card reader on it. At least, these had the WMA format support unlike some of the Intex models.



Moserbaer _MPS5357

What about Blu-ray players? Are they

not as good as DVD players? For one, they are much more expensive. The Sony BDP-S350 is a Blu-ray player that has a price tag of Rs. 25,000. The S300 is some Rs. 5,000 more. To be very honest, Blu-ray players aren't affordable yet. Panasonic's DMP-BD60 is sold at around the same price as the Sony BDP-S350. Even if you buy a Blu-ray player, you have to keep in mind media availability. Movies in the Blu-ray format are extremely expensive and aren't available everywhere. The PS3 gaming console is a better Blu-ray player overall and building an HTPC with a Blu-ray player will be more cost effective.



LCD Monitors



With DX 11 around the corner and the latest slew of pre-holiday season games about to hit the market, what better time to upgrade my ageing LCD monitor. I own a ViewSonic VX2025WM, a 20.1-inch LCD that I love for its superb 8-bit, MVA panel. But over the years, my usage patterns have changed, and I use my PC for image editing and coupled with gaming this dictates a larger display. Since I'm always glued to my screen, I also use my computer for watching movies and this is a daily affair. Now bigger is always better and after testing LCD monitors this year and seeing the gorgeousness of some of the new monitors, I knew I just *bad* to upgrade.

What followed was a lot of research. I dug up the issue the August issue of Digit, which had the test and re-read it. Then I carefully looked at my options in terms of what was available. I wanted a high-end, 8-bit panel based on either IPS or PVA technology. The reason is simple – viewing angles (necessary while watching movies), and colour and contrast. Once you have seen what a good LCD monitor has to offer in terms of overall display quality, you will never want to use a cheaper TN panel-based display. Obviously higher end panels are costly to manufacture and this adds to the cost of the product. I shortlisted a number of products I would consider. Usually, high-end monitors have additional connects like Component, HDMI and possibly DisplayPort – useful for compatibility and usage over a wide range of products, for example, a Blu-ray player, or an HTPC or even a console – something to consider if you have any of these. For PC users, DVI connectivity is a must, do not opt for a monitor that only has D-Sub i.e. analogue connects.



An extended weekend saw me with enough time for a sojourn to Lamington Road. I caught a bus and one sweaty hour later, just before noon was there. Now the best way to buy an LCD monitor is to check the model numbers online and jot them down. You don't want to be arguing with a shopkeeper about the validity of a model number; just as sure as you don't want to be picking a monitor based solely on what each vendor has in his shop. This is one category where most shopkeepers do not stock more than one or two pieces and usually they're the bare essential ones. It is the distributors who stock different models in bulk and any shop can get you nearly any model from any brand. A couple of few exceptions to the brands would be Dell and HP – these brands do have models available in the market, but since especially Dell deals directly with end users, most vendors who

claim to have dell monitors have actually bought them from Dell posing as corporate end users. They buy these on their shops name. This makes everyone happy, for Dell doesn't require a receipt to prove purchase, just an IMEI number, mentioned on every LCD. Other brands like LG, ViewSonic, Samsung, Acer, AOC and BenQ can be found virtually anywhere and even if the dealer doesn't have stocks, you can order just about any model.

There is a huge difference in prices of entry-level monitors and high-end ones. In some cases the difference can be quadruple the price. I feel everyone, even basic computer users, ought to upgrade to or for first time users, buy, at least a 22-inch monitor. 90 per cent of all LCD monitors available are widescreens and with games, movies and most other multimedia content optimised for widescreen

aspect ratios, there is no need to buy something with a regular 4:3 or 5:4 aspect ratio anymore. The screen size of a 22-inch is pretty large and equates to a resolution of 1680 x 1050 pixels – good enough for most people, unless you need something that is full-HD which means at least a 24-inch display.

In the 22-inch category, I recommend AOCs 2236vW

– I tested this monitor and although it wasn't available



NEC 2490WUXi2

in the market around the time of the test, a couple of dealers told me they could arrange for it. At Rs. 8,500, it's a killer deal and quite frankly a very good buy. If you want something a little better performing, I recommend trying AOCs 2230Fm – this model also has a memory card reader besides offering a better contrast ratio and general quality. ViewSonic's VX2233WM is also available for Rs. 10,690 – another decent deal. AOCs 2434Pw is also available in the 24-inch category for a price of Rs. 13,900. ViewSonics and Acer were the other brands I came across. There are also some 16:9 really wide aspect ratio monitors that are available. Although not too great for regular PC usage, where I recommend a 16:10 aspect ratio, they rock for

viewing HD content that is also 16:9. LGs 237WA, is a 23-inch LCD monitor and a neat one at that. Thanks to the cable connect and remote control bundled, it can be used as a TV too. It's priced at Rs. 17,300. Even ViewSonic had a model, called the VX2433WM that is priced at Rs. 18,000 and has a 16:9 aspect ratio, but no TV connect – just D-Sub, DVI and HDMI.

So far, I didn't have any luck with finding Dell monitors, but the third shop I sauntered into informed me he could "arrange" for Dell, though it would take three days to deliver. He also promised delivery to my doorstep for a "mere" 150 bucks more. I enquired about the prices. The Ultrasharp 2209WA was available for Rs. 20,000 and this 22-inch panel is an IPS one, making it suitable for my work. I enquired about the bigger displays, the new Dell U2410 (H-IPS panel), was priced at Rs. 38,000, while the superbly large Dell 2709W (S-PVA panel) was priced at an astronomical Rs. 49,000. It had been my secret dream to own this last monitor – 1920 x 1200 pixel resolution, an amazing panel for movies and games and all the connects necessary, plus a wide colour gamut. But the price broke my heart.

Quietly I enquired about any other monitors and was told that NEC displays were also available, and their 24-inch IPS-panel MultiSync 2490WUXi2 was available for a whopping 75,000 bucks – might as well buy that Ferrari while I'm at it. I settled for the Dell 2209WA and was told that it would be delivered to my doorstep provided I pay 25 per cent of the dough up front which I did. Sadly, when it came high-end panels, there's very little choice for discerning buyers. Talk about cheaper LCDs and you'll have a wagonload of choices.



Portable Multimedia Players



Last month, I gave away my third generation iPod Nano, to a very good friend and now commutes to work, thus, the hunt for a replacement PMP was on. The Nano is compact, but has a small screen for video. Some people want a video-PMP, but they aren't willing to shell out for a larger display. I feel that for videos, the screen size should be at least three inches.

If you want a PMP strictly for music, something compact with not-too-large a screen will suffice. However, there are exceptions and no two peoples tastes are alike. Someone who wants only music may want the luxury of a large screen or a touch-based device. Another important consideration is the storage space and medium. The traditional HDD storage has given way to flash and while two and four GB flash-based PMPs are as common as

dust, quite a few vendors these days are offering larger storage capacities. Storage is need based – don't buy more than what you need. Videophiles will look at storage space since videos demand at least 300 MB per movie.

Another important thing to consider is the file formats supported. Almost all video PMPs will support .AVI, but a few of the newer ones also support DivX – a significant plus. Audiophiles will want lossless audio – Cowon is best suited for those who frown on the quality of MP3 files, the D2+ and S3, support FLAC and APE audio formats. Apple also has support for a lossless audio format called ALAC or simply Apple Lossless.



Ipod Nano

When buying a PMP, one may be tempted to be lazy and simply go to the nearest mall and decide, after all a multitude of models are on display. I advise against this – malls are perhaps, the worst places to shop and in general the staff are as unknowledgeable as you'd find in any electronics shop. Not only do malls like Croma and Reliance Digital not have a very good selection of PMPs, but they're also very biased for certain brands that they do stock for obvious reasons. So if they don't have PMPs from Cowon, they're obviously crap and not worth keeping – avoid this drivel. I suggest doing a bit of background work by reading up and then foraging into the smaller electronics stores. You're bound to find things cheaper. With larger brands, bills are not necessary, since the product IMEI number suffices. The difference is as much as 7 per cent.

I came across the new Apple Nano in the market and was impressed. It's sleek, great finish and build and Apple dropped in FM Radio support. The screen is also slightly larger at 2.2-inches, ideal for use while working out. The same vendor also showed me a Creative Zen X-Fi 2. These ship with decent earphones, similar to the Creative EP630 that I like for their excellent value and acoustic sealing. This PMP was priced at Rs. 8,700 for the 16 GB model, but I didn't like all the buttons on the front. The X-Fi 2 is well built though, with a partial metal body that most will like. The Cowon D2+ was

also available, for 10,000 bucks (16 GB). I don't like the interface, as the touch screen controls are quite iffy and takes getting used to. One plus is the presence of an SD memory card slot – expansion is good, especially since 16 GB SD cards are rather cheap. Although the D2+ is small, it's pretty thick. Cowon's iAudio 5 was also available with the same vendor. Now this is a sweet little music player. It's really compact and looks like a small cellphone. If you're looking

for good quality music on a lower budget, the 4 GB version of the iAudio 5 costs just 4,600 bucks. It's got FM Radio and a voice recorder as well. I recommend this for someone looking at a good music player, but remember that the screen is just too small for video playback.

It seems Transcend and YES are taking the entry-level market by storm – YES has quite a few neat models ranging from Rs. 1,500 to Rs. 4,000 and if memory serves, they sound pretty good. Build quality is not a problem too. However, if you're spending around 4,000 bucks, you might as well pick up the Cowon iAudio 5. The iPod Classic is also available for Rs. 15,000 – 160 GB is a lot of space and this player sounds amazing – highly recommended for those with loads of music and cravings of quality. The Classic is bulky, but that's to be expected since it's HDD based. Samsung also has a few good PMPs, but none of the electronics shops had any.

I was attracted to the new iPod Touch – Apple's interface just rocks and the Touch is an amazing player – photos, high-quality music, videos – it's got all the goodies. The 64 GB version can store quite a bit and was my choice, but the price, an astronomical Rs. 24,800 wasn't to my liking. The 16 GB Nano was priced at Rs. 13,500, while the 32 GB Touch was priced at Rs. 16,900. I ended up with the latter and managed to swing it for 400 bucks less. Finally, I can carry around my photos, view them in style and all while tuned in to my grooves. The clincher for me was the interface really, everything is so seamless on the Touch and another important point was the decent browser – Safari. My home is Wi-fied, and I intend to use this to surf when in bed!



iPod touch



Camcorders



Camcorders today are a mature product. No longer do they enjoy the extra attention bestowed on *hot* categories like cellphones, digital cameras and such. Camcorders used to be a happening category till last year, but something happened after that. Digital camera manufacturers started to vamp up their products with a better video recorder component and this has cut a neat wedge out of the camcorders share of the market pie. Sure, camcorders still enjoy attention, but this is niche – people who shop for one usually end up buying a digital camera instead, whether because of the price and availability is anyone's guess; regardless of the advice to the contrary.



This doesn't mean that camcorders have stagnated in terms of technology. Quite the contrary, better lenses, improved sensors and lighting and better storage mediums mean that camcorders today, are better than their predecessors. Another trend is the shrinking size – everyone wants something really tiny. Technology advancements means even a 1080i resolution camcorder can be quite compact. Only the 1080p camcorders are larger and these are not generally considered consumer-grade, rather they're meant for professionals.

Even if you're a very basic user, you should, at the very least, consider buying an HD camcorder. The higher resolution equates to better image quality and the other parts of HD camcorders are also suitably well built. Prices of HD 1080i camcorders typically start around the Rs. 36,000 mark, so they're not cheap by any means. Sadly build quality is one area where none of today's consumer-grade camcorders excel. It's almost like they're built on the lines of planned obsolescence, that is, they've got a definite usage life – and it's not a lot of time.

Sony's XR100E leads my recommendations for a good HD camcorder. Remember, since HD resolutions mean a lot more data, traditional media like DV tapes and DVDs do not cut it, therefore all HD camcorders will feature either flash or HDD storage. I prefer the latter, there's no issue of erase cycles and you get more space for less. The XR100E is priced at Rs. 39,990 and ships with an 80 GB hard drive – sufficient for nearly everyone. The camcorder is very compact in-hand and the on screen controls rather usable. The viewfinder is not the best around and should have been a little

larger, but it serves its purpose. I also saw some Canon HD camcorders, traditionally Canons are really terrific, but they're costly. They have a new range called "Legria". The Legria HF S100 has a very large lens and a large filter and the sensor is high resolution at 8 MP. The 15x optical zoom should be versatile though and after trying this camcorder I came to the conclusion that its display was better and the image quality was slightly better than the Sony XR100E. But again, no built-in storage and it loses out. Some will argue with the logic of comparing between camcorders with flash and HDD media – but in reality it's not about the media. Sony offers better bang for buck. Samsung doesn't have anything in the HD sphere.

Be sure to use any camcorder you consider buying. Check the screen, its legibility and brightness, the size which should be around 2.7-inches. Also look at how comfortable it is for you to use. Obviously, if you're a large-handed person, a tiny camcorder may not be a good idea, unless you're willing to compromise on usability. Next, use the camcorder a bit. This will give you an idea about the interface. Touch-screen camcorders are generally easier to use since the interface is usually more multimedia-oriented. I also saw Canons HR10 – a DVD camcorder supporting a resolution of 1080i – impressive.

If you're looking for extreme value, then you will have to opt for one of the other recording formats, namely mini disc (DVD) or DV tape – although these are older storage medium, they're still pretty popular and by no means outdated. The only minus point is the consumables cost associated with media – not suitable for those who use their camcorders a lot, for you will eventually spend a lot on buying media. The Canon DC320 is a very decent mini DVD model and best of all it's available for as little as Rs. 21,000 – a good buy for someone looking to spend under 25K. Samsung's VP-DX200I is for the shopper on a shoestring, decent performance and a price tag of Rs. 17,500 makes it a very appealing buy if you're a first-time, non-discerning buyer.

Since I was shopping for one that we could use for our test centre I had a slightly higher budget and opted for the Sony XR100E and I picked it up for 34,500 bucks, tried as I might I couldn't shave anything off the price.

